

Ignition Conversion Kits to Convert a Standing Pilot to a Spark-Ignited, Intermittent Safety Pilot System with Lockout

Applies: Models XL, CXL, XLB, CXLB

Description / Application

The ignition conversion kits in this form are for Models XL, CXL, XLB and CXLB with unit heaters equipped **with standing pilot and single stage gas valve**. Do not use with any other product. Before beginning conversion, determine that your kit is compatible with your heater. All kits convert to spark-ignited, intermittent safety pilot systems with lockout.

NOTE: These are ignition conversion kits only; not gas conversions kits.

Ignition Conversion Kit Selection Chart		
XL, CXL, XLB, CXLB	Gas	Kit P/N
30 - 105	Natural	98340
30 - 105	Propane	98341
125 - 250	Natural	98554
300 - 400	Natural	98555
125 - 400	Propane	98556

NOTE: See component listings on page 4.

WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

Instructions

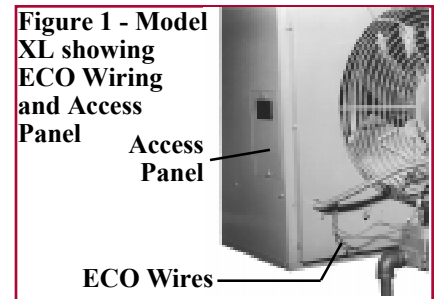
DANGER: This ignition conversion kit is to be installed by a qualified service agency in accordance with these instructions and in compliance with all codes and requirements of authorities having jurisdiction. Failure to follow instructions could result in death, serious injury and /or property damage. The qualified agency performing this work assumes responsibility for this installation.

- Turn off the gas supply** at the shutoff valve upstream of the combination valve and disconnect the electrical supply.
- Remove Valve**
Disconnect the wiring and supply piping from the valve.
Sizes 30-105 -- The burner rack and manifold are part of the bottom panel assembly. At the rear corners of the heater, remove the screws that hold the bottom panel to the heater. While supporting both the valve/manifold assembly and the bottom panel, slowly pull down on the rear of the hinged bottom panel assembly. The bottom panel will pivot on tabs that are inserted into the front panel of the heater. After the bottom is hinged down about 30°, slide the assembly forward and unhinge from the front panel. The bottom panel/burner rack assembly is now completely removed from the heater.
Sizes 125-400 -- On the bottom of the heater, locate and remove the small pilot access cover. Remove the four screws holding the bottom rear panel to the heater.

Disconnect the pilot tubing and the thermocouple connectons at the valve. Pull the bottom rear panel of the heater loose and away from the heater. The slide-out type bumper rack and manifold assembly is now in view.

All sizes -- Remove the gas valve.

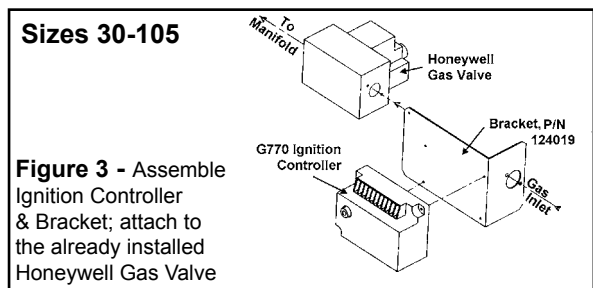
- Remove ECO Wires**
-- Determine whether or not the heater is equipped with an ECO device (See Figures 1&2). If the unit has an ECO device, remove the access panel on the



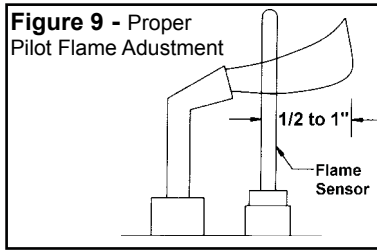
side of the heater. (On blower models, the access panel may be on the blower adapter). Locate the ECO device and disconnect the wires. Remove the wires only. **IMPORTANT: Do not remove the ECO device. Disconnect and remove wires only.** Plug the wire entry hole in the heater cabinet. Replace the access panel.



- Install the Valve and Ignition Controller**
When the conversion is complete, the installed gas valve acts as the "support" for the ignition controller. Depending on the valve in the kit, there are either one or two brackets and either four or six screws required to create the valve/ignition controller assembly. Instructions are identified by the P/N of the kit; follow the instructions for the kit being installed.
Kit P/N 98340 and P/N 98341 for Sizes 30-105
Parts Required: Valve, Ignition Controller, Braket, two 5/8"lg #6 Screws and two 1/4"lg #8-32 Screws.
1) Connect the outlet side of the valve to the heater manifold.



The flame should extend 1/2" to 1" past the flame sensing device (See Figure 9).



To adjust the pilot flame, remove the pilot adjustment cover screw from the combination valve. Turn the inner adjustment screw clockwise to decrease or counterclockwise to increase the pilot flame. Replace the cover screw after the adjustment to prevent gas leakage.

10. Adjust Manifold Pressure

Follow these requirements and instructions to adjust manifold gas pressure:

For Natural Gas - The regulator in the valve must be adjusted to provide a manifold pressure of 3.5" w.c. Inlet pressure to the valve must be a minimum of 5" w.c. or as noted on the rating plate and a maximum of 14" w.c.

For Propane Gas - The regulator in the valve must be adjusted to provide a manifold pressure of 10" w.c. Inlet pressure to the valve must be a minimum of 11" w.c. and a maximum of 14" w.c.

WARNING: Manifold gas pressure must never exceed 3.5" w.c. for natural gas or 10" w.c. for propane gas.

Instructions - Before attempting to measure or adjust the manifold gas pressure, be certain that the inlet (supply) pressure is within the specified range for the gas being used both when the heater is in operation and on standby. Incorrect inlet pressure could cause excessive gas pressure immediately or at some future time. With the manual valve

(on the combination valve) positioned to prevent flow to the main burners, connect a manometer to the 1/8" pipe outlet pressure tap on the valve. Open the valve and operate the heater to measure the manifold gas pressure.

NOTE: A manometer (fluid filled gauge) is recommended rather than a spring type gauge. If the manometer indicates that the manifold pressure needs adjusting, set the correct pressure by turning the regulator screws on the valve IN (clockwise) to increase pressure. Turn the regulator screw OUT (counterclockwise) to decrease the pressure.

11. Check for reliable and safe operation by operating the heater for several complete cycles.

Retain this instruction sheet for future reference.

Kit Components

Ignition Conversion Kits for Models (C) XL (B) 30 - 105		
Qty	P/N	Description
Kit P/N 98340 for Size 30 - 105 NATURAL GAS Units includes:		
1	96307	Gas valve, Natural, 1/2"MH VR8204M1000
1	93971	Pilot assy, Natural, Johnson 983HKW7715
Kit P/N 98341 for Size 30 - 105 PROPANE GAS Units includes:		
1	96310	Gas valve, Propane, 1/2"MH VR8204M1018
1	93972	Pilot assy, Propane, Johnson 983HKW4709
Both Kit P/N 98340 & 98341 includes:		
1	97547	Ignition controller, Johnson #G770NGC-4
2	110076	Screws, #6 x 5/8"lg (for mounting controller on bracket)
1	124019	Bracket (to attach ignition controller to the valve)
2	124023	Screws, #8-32 x 1/4"lg (to attach valve to bracket)
1	50450	Red wire assy (flame probe to ignition controller), 18ga x 16"lg, 150° C SEF with 2 terminals
1	5145	Pilot tubing 1/4" dia x 22"lg
2	9664	Nut with breakaway ferrule (for pilot tubing)
1	43594	Flame probe
1	43998	Blue wire assy (ignition controller to valve), 18ga x 12"lg, 105° C with 2 terminals
1	43997	Black wire assy (ignition controller to valve), 18ga x 12"lg, 105° C with 2 terminals
1	60150	Brown wire assy (ignition controller to valve), 18ga x 12"lg, 105° C with 2 terminals
2	20913	Nylon ties (for wires)
1	96101	Lighting instructions plate
1	171735	Instruction sheet PD-11

Ignition Conversion Kits for Models (C) XL (B) 125 - 250, Natural Gas and 125 - 400 Propane Gas		
Qty	P/N	Description
Kit P/N 98554 for Size 125 - 250 NATURAL GAS Units includes:		
1	121598	Gas valve, Natural, 1/2"MH VR8304M2808
1	61145	Pilot assy, Natural, Johnson 992HXW7223
Kit P/N 98556 for Size 125 - 250 PROPANE GAS Units includes:		
1	121600	Gas valve, Propane, 1/2"MH VR8304M3802
1	61146	Pilot assy, Propane, Johnson J992HXW-4209
Both Kit P/N 98554 & 98556 includes:		
1	97547	Ignition controller, Johnson #G770NGC-4
2	110076	Screws, #6 x 5/8"lg (for mounting controller on bracket)
1	124019	Bracket (to attach ignition controller to the valve)
2	124023	Screws, #8-32 x 1/4"lg (to attach valve to bracket)
1	50450	Red wire assy (flame probe to ignition controller), 18ga x 16"lg, 150° C SEF with 2 terminals
1	5145	Pilot tubing 1/4" dia x 22"lg
2	9664	Nut with breakaway ferrule (for pilot tubing)
1	90186	Blue wire assy (ignition controller to valve), 18ga x 8"lg, 105° C with 2 terminals
1	90184	Black wire assy (ignition controller to valve), 18ga x 8"lg, 105° C with 2 terminals
1	90185	Brown wire assy (ignition controller to valve), 18ga x 8"lg, 105° C with 2 terminals
1	96101	Lighting instructions plate
1	171735	Instruction sheet PD-11

Ignition Conversion Kits for Models (C) XL (B) - 300 - 400, Natural Gas		
Qty	P/N	Description
Kit P/N 98555 for NATURAL GAS Units includes:		
1	89397	Gas valve, Natural, 3/4", W/R 38C68-441
1	97547	Ignition controller, Johnson #G770NGC-4
1	111736	Bracket (to attach the ignition controller)
4	110076	Screws, #6 x 5/8"lg (for mounting controller on bracket & bracket to bracket)
1	90187	Bracket (to attach valve and ignition controller)
2	90167	Screws, #10 x 3/8"lg (to attach valve to bracket)
1	50450	Red wire assy (flame probe to ignition controller), 18ga x 16"lg, 150° C SEF with 2 terminals
1	61145	Pilot assy, Natural, Johnson #992HXW - 7223
1	5145	Pilot tubing 1/4" dia x 22"lg
2	9664	Nut with breakaway ferrule (for pilot tubing)
1	90186	Blue wire assy (ignition controller to valve), 18ga x 8"lg, 105° C with 2 terminals
1	90184	Black wire assy (ignition controller to valve), 18ga x 8"lg, 105° C with 2 terminals
1	90185	Brown wire assy (ignition controller to valve), 18ga x 8"lg, 105° C with 2 terminals
1	96101	Lighting instructions plate
1	171735	Instruction sheet PD-11

